CALTRANS REGIONAL OPERATIONS FORUMS

Traffic Incident Management / Safety in Operations

Managing Non-Recurring Congestion and TSMO

Managing and preparing for these events is an operational philosophy that supports and becomes a foundation for transportation system management and operations (TSMO).

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Traffic Incident Management

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Traffic Incident Management (TIM)

- Planned, coordinated, multidisciplinary process
- Detect, respond to, and clear traffic incidents
- Restore traffic flow as safely and quickly as possible
  - Reduce duration and impacts of traffic incidents
  - Improve the safety of motorists, crash victims, and responders

National focus on TIM

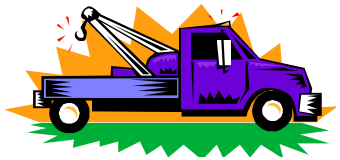
Enhanced planning and training of all TIM personnel:

1. Reduce or eliminate responder and motorist injuries and fatalities
2. Promote rapid incident clearance, thereby reducing traffic congestion and vulnerability
3. Develop or enhance local TIM Programs that ultimately benefit corridors, regions, and states
4. Measure performance that demonstrates improved TIM responses and programs over time
5. Emphasize TIM as a system operations “core mission” for all responders

National Unified Goal for TIM

The NUG for TIM is:

Responder Safety



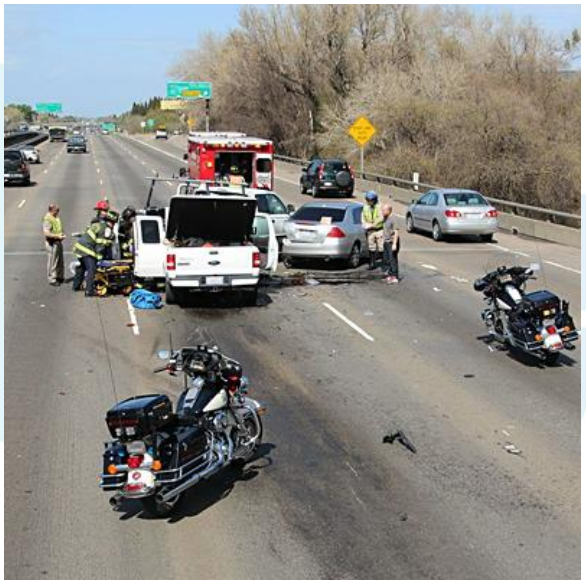
Safe, Quick Clearance

Prompt, Reliable, Interoperable Communications

Why TIM?

Safety

- Victims
- Responders
- Travelers



Discussion Item

- What are your current activities and programs for TIM?
- What has been a significant challenge to your program? How are you addressing that challenge?
- What has the biggest impact on incident response in District 2?
  - Weather?
  - Work zones?
  - Resources?

TIM Programs

- The goal of a TIM program is to work towards a more effective, efficient response for all responding agencies
- Conscious effort to coordinate and plan to create an effective, comprehensive TIM program
- TIM programs and associated committees and task forces are sustained and ongoing
- TIM efforts have a direct benefit to improving coordination during emergencies

TIM Task Forces/Coalitions

- Forum for incident/emergency responders
  - Law Enforcement
  - Fire/EMS
  - Tow Operators
  - Transportation agencies
  - Communications/outreach

- Training, processes, procedures, major incident debriefings, lessons learned
- Central resource for training materials
- Track TIM performance measures
- Legislation awareness
- Other Benefits?

WaTIMCo
Washington Traffic Incident Management Coalition

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TIM Coalition Case Study

- Nevada's TIM Coalition
  - Organizing for better incident response in I-15 work zone in Las Vegas
  - Brought partners together
  - Identified tools/processes agencies could use
    - Existing traffic ops center, cameras
    - Notification processes
- Foundation for regional coalitions
  - Urban areas – Las Vegas, Reno/Washoe
  - Rural areas – Elko, Winnemucca, Tonopah

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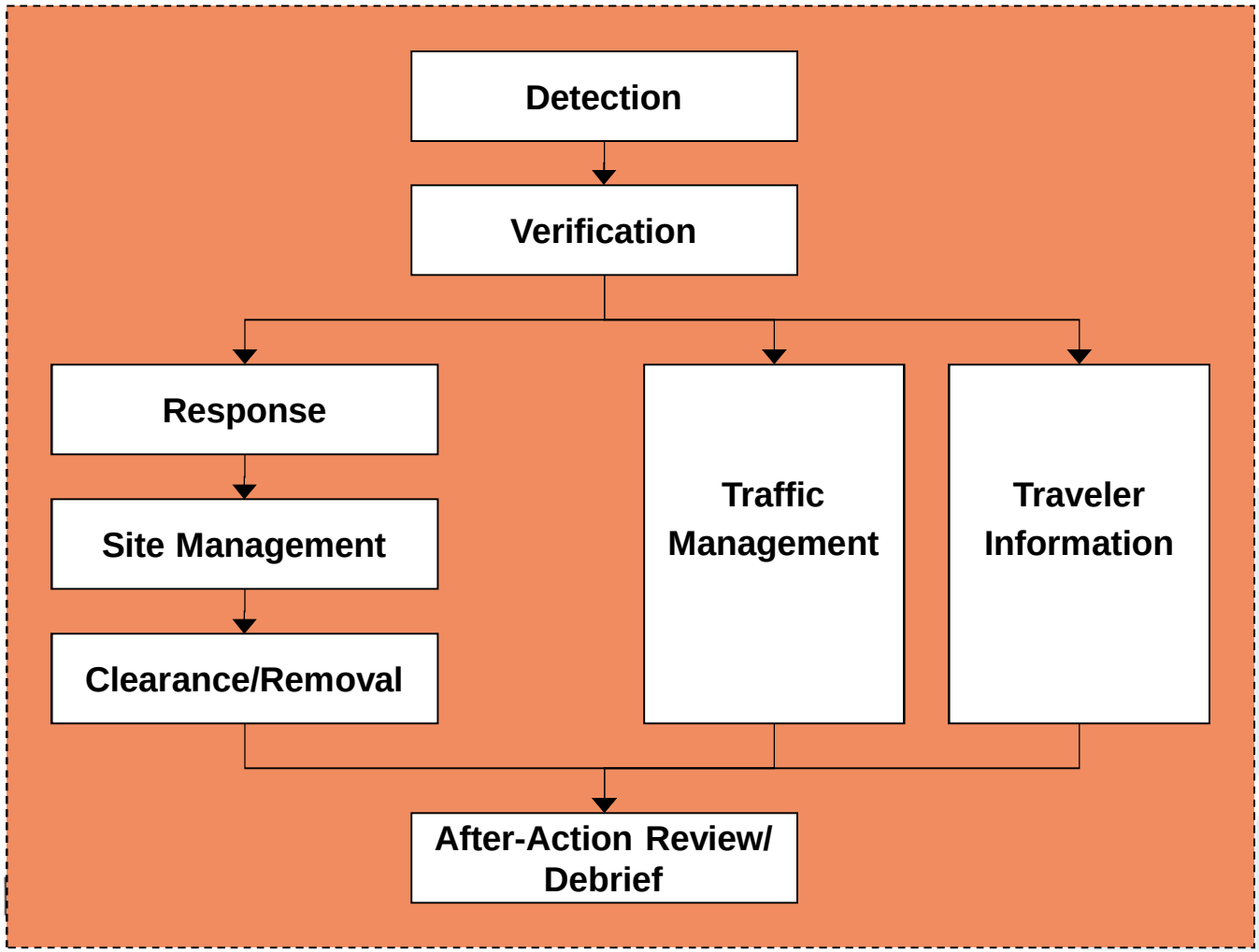
TIM Processes



Freeway Service Patrol

- Trained personnel using specially equipped vehicles to:
  - Patrol congested highways,
  - Search for and respond to traffic incidents, and
  - Provide motorist assistance
- One of the most valued services by the public
- Active in several CA counties
  - 650,000 motorist assists each year
- Benefits:
  - Allows law enforcement to focus on other callouts
  - Removes vehicles from travel lanes – limit distraction
  - Safety

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Tow Operators and TIM

- Critical part of incident response and clearance
- Unique practices:
  - Heavy tow incentive programs (Georgia)
  - TIM Training required for Tow Contractors (CA, AZ, VA)

TIM Training

- Multi-disciplinary training with national curriculum
- Develops cadre of emergency responders who work together at an accident scene in a coordinated manner
- Improves safety to responders and travelers
- Developed by responders for responders

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CA TIM Training

- 14 1.5-day “Train-the-Trainer” courses
- 795 4-hour responder courses
- 17,300 total responders trained in CA
  - 460 instructors trained
  - 13,300 responders trained in classes
  - 3,400 responders trained online
  - 200 responders trained with CT video
- Institutionalized:
  - CHP Academy
  - Caltrans Maintenance Academy (NEMO)
  - Towing rotation/FSP
  - EMSA CEUs
  - LEMSA contract requirement

TIM Performance Measures

- "Roadway" Clearance Time
  - *"One Minute of Delay = 4X Traffic Queue"*
  - Time from first record of an incident by a responsible agency to all lanes being open to traffic
- "Incident" Clearance Time
  - Time from first record to time last responder leaves scene
- Secondary Crashes
  - *"Each Hazard Minute = +2.8% risk increase"*
  - Crashes beginning with the time of detection of the primary incident
    - within the incident scene or
    - within the queue, including the opposite direction

Emergency Operations

Types of Emergency Events

- Tsunamis/Tornadoes
- Floods
- Heavy rains
- Earthquakes
- Wild Fires
- Winter Weather / Snow and Ice Storms
- Homeland Security / catastrophic Infrastructure emergencies

Common Characteristics of These Events

- Large scale impact
- Can happen anytime, often without warning
- Transportation is critical to effective response
  - ↳ Whether transportation infrastructure is affected or not

Emergency Operations

- Major emergency events in District 2
  - What worked well to respond?
  - What were some items that did not work well?
  - How have processes changed as a result?
- What types of events do agencies usually plan for?

Emergency Operations Goals

- Minimize the impact of disaster on people, property, environment, and the economy.
- Assure mobility of the public and emergency response personnel.
- Assure agency continuity.
- Protect agency facilities and resources.

Emergency Operations Practice Areas

- Interagency Coordination and Communication
- Policy/MOUs
- Threats and Vulnerabilities
- Emergency Operations
- Equipment
- Mutual Aid
- Notification, Awareness, and Information Sharing

Emergency Operations Planning

- Define needs by type of emergency event
- Define stakeholders, partners, and resources
- Develop Concept of Operations for emergency response
  - Emergency operations center
  - Roles and responsibilities
  - Staffing - especially maintenance & operations needs
  - Relationship of transportation management center

Notification, Awareness, and Information Sharing

- Coordination and notification processes
  - Multiple means of notification
  - Media contacts / sharing info with the public
- Information sharing among response agencies
- Role of transportation agencies
  - Maintenance/Operations
  - Traveler information, public outreach, media relations
    - QuickMap, CMS, HAR, Internet, Social Media
    - Emergency Alerts
    - TV, Radio, print media
    - Public information specialists

Safety in Operations

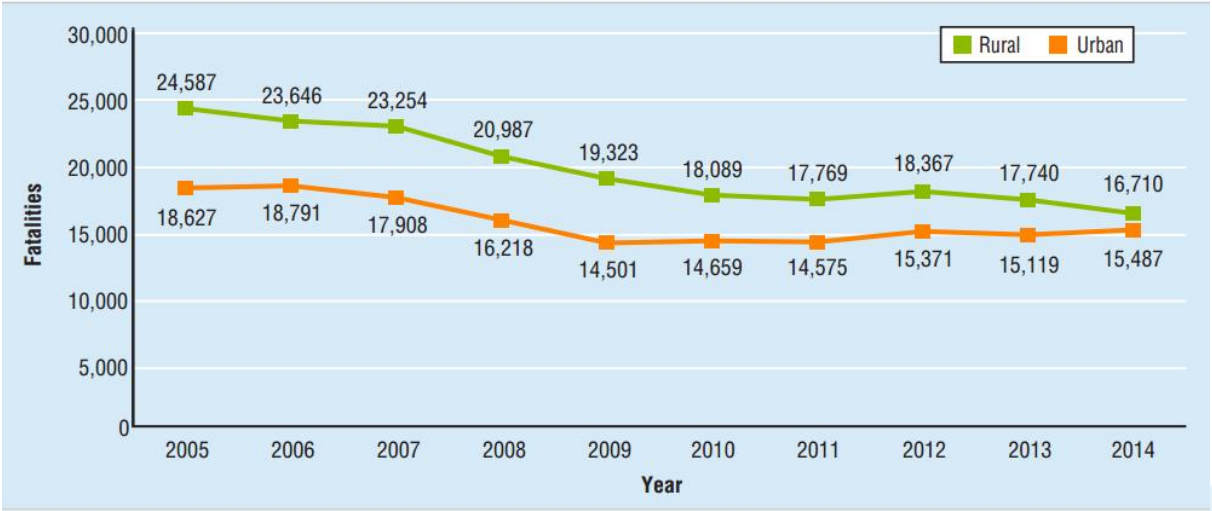
Why Link Safety and Operations?

- Highway fatalities and serious injuries at unacceptable levels

- 37,000 traffic fatalities in 2016
  - Largest increase in traffic deaths in 50 years
  - Boeing 747-400 carries 520 passengers
  - 2016 traffic fatalities = 71 airline crashes

Rural and Urban Safety

- Nationally –
  - 50% of traffic fatalities occur in rural areas
- Factors
  - Time of day
  - Speed
  - Alcohol
  - Restraint use



Source: NHTSA July 2016

- California
  - 38% of traffic fatalities occur in rural areas
  - What are the primary factors you see?

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Safety Issues in District 2

- What are the top safety issues you see on the road network?

- What measures have already been taken?

Safety Measures and TSMO

- Safety is addressed through many different measures
  - Lighting
  - Signs
  - Road/pavement marking
  - Signals
  - Advanced warning of hazards
  - Weather response
  - Physical barriers
- TSMO focuses on
  - Processes to improve safety planning and strategy
  - Root cause analysis
  - Collaborative options



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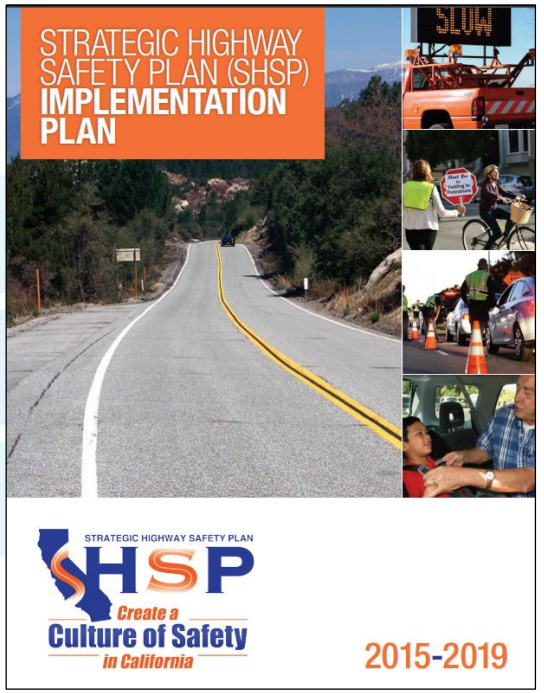
For example…

- Data from ITS and operations systems can help to support safety analyses
  - Performance tracking
- Evaluate safety needs as part of operations design and implementation
- Leverage SHSP implementation
  - Local/regional stakeholders
  - Address common safety concerns
- Outreach and education



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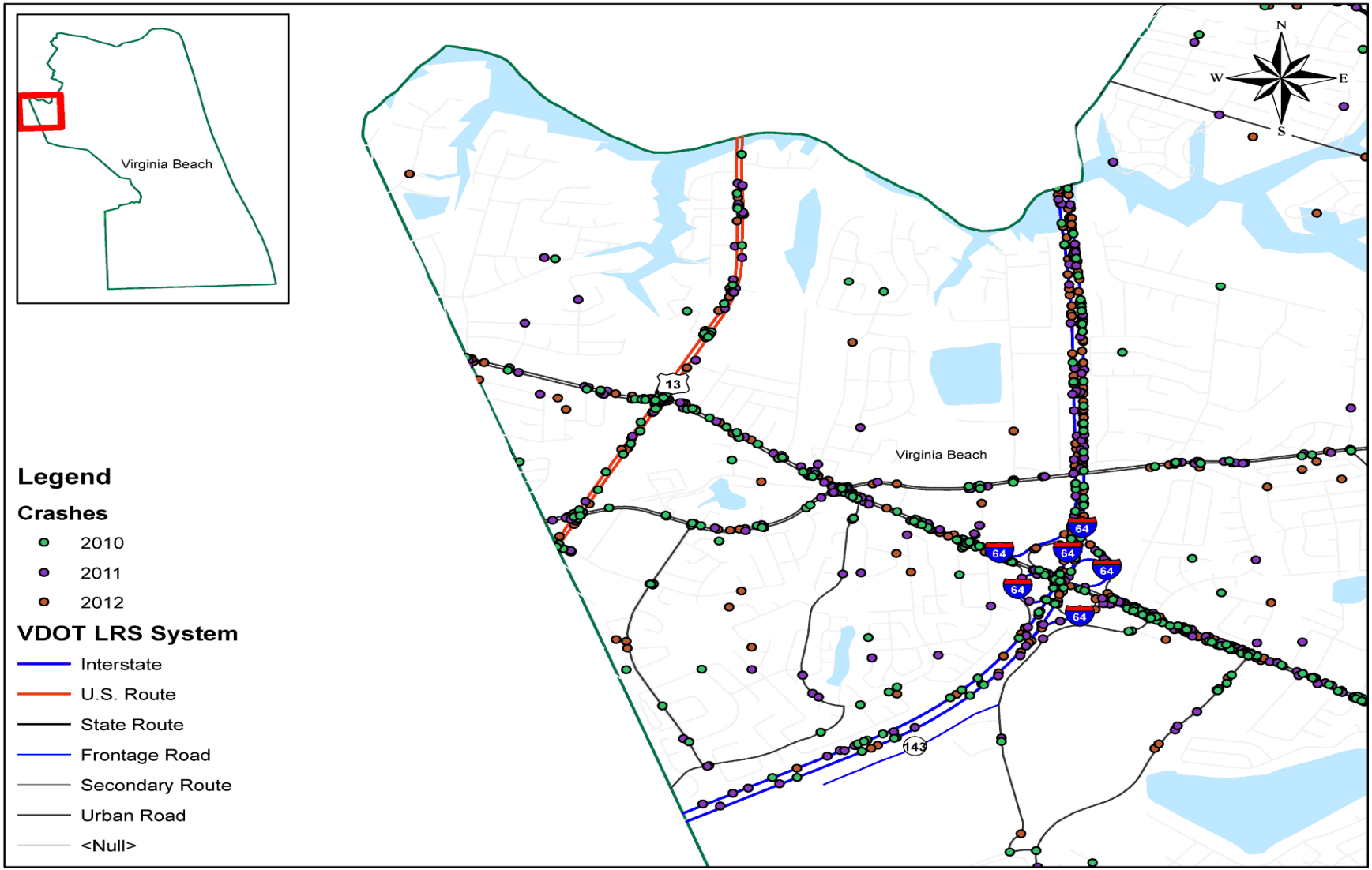
Current Methods for Tracking and Reporting Safety Issues

- How do agencies here currently track crashes and crash characteristics?
  - Locations
  - Severity
  - Location frequency

Crash Locations through GIS



Crash Density Maps